CONTROL ID: 2361487

TITLE: Spectrophotometry of the Ceres surface

ABSTRACT BODY:
Abstract (2,250 Maximum Characters): The Dawn spacecraft is in orbit around dwarf planet Ceres. The onboard Framing Camera (FC) is mapping the surface through a clear filter and 7 narrow-band filters at various observational geometries and image resolutions. Generally, Ceres' appearance in these images is affected by shadows and shading, effects which obscure the intrinsic reflective properties of the surface. By means of photometric modeling we remove these effects and reconstruct the surface reflectance for each of the FC filters, creating albedo and color maps in the process. Considering these maps in unison provides clues to the physical nature and composition of the surface and the dominant geologic processes that shape the surface. We assess the nature of color variations in the visible wavelength range for Ceres globally. We identify which terrains express the dominant colors and investigate why some areas are exceptions to the rule. By correlating the color over the surface with geologic units we find an relatively strong enhancement of the reflectance towards the blue end of the visible spectrum for recent impacts and their ejecta.

CURRENT * CATEGORY: Ceres and Vesta

CURRENT : None

AUTHORS/INSTITUTIONS: S. Schröder, S. Mottola, U. Carsenty, R. Jaumann, U. Keller, K. Krohn, K. Matz, K. Otto, F. Preusker, T. Roatsch, F. Scholten, K. Stephan, R. Wagner, DLR, Berlin, GERMANY;
U. Keller, Technische Universität Braunschweig, Braunschweig, GERMANY;
J. Li, PSI, Tuscon, Arizona, UNITED STATES;
L. McFadden, Goddard Space Flight Center, Greenbelt, Maryland, UNITED STATES;
C. Raymond, JPL, Pasadena, California, UNITED STATES;
C. Russell, UCLA, Los Angeles, California, UNITED STATES;

Contributing Teams: